

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/070035 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2005/002600

(22) International Filing Date: 24 January 2005 (24.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/538,789 22 January 2004 (22.01.2004) US

(71) Applicant and

(72) Inventor: BELSON, Amir [IL/US]; 20700 Rodrigues
Ave., Apt. C, Cupertino, CA 95014 (US).

(74) Agents: TITUS, Carol et al.; 3900 Newpark Mall Rd.,
Third Floor, Suite 317, Newark, CA 94560 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

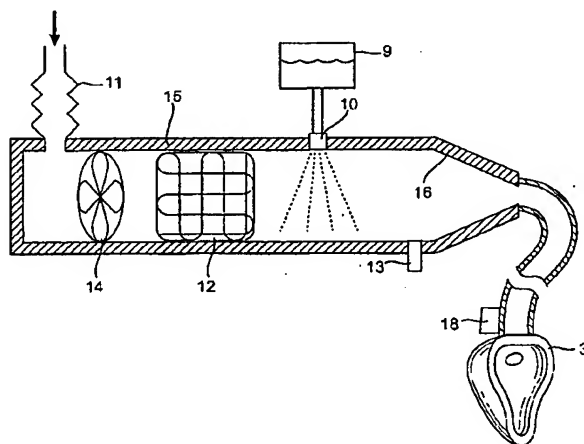
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: RESPIRATORY SYSTEM FOR INDUCING THERAPEUTIC HYPOTHERMIA



(57) Abstract: The present invention provides a method and apparatus for controlling a patient's body temperature and in particular for inducing therapeutic hypothermia. Various embodiments of the system are described. The system includes: a source of breathing gas, which may be in the form of a compressed breathing gas mixture; a heat exchanger or other heating and/or cooling device; and a breathing interface, such as a breathing mask or tracheal tube. Optionally, the system may include additional features, such as a mechanical respirator, a nebulizer for introducing medication into the breathing gas, a body temperature probe and a feedback controller. The system can use air or a specialized breathing gas mixture, such as He/O_2 or SF_6/O_2 to increase the heat transfer rate. In addition, the system may include an ice particle generator for introducing fine ice particles into the flow of breathing gas to further increase the heat transfer rate.

WO 2005/070035 A2